**Exercise 4: Triggers**

**Scenario 2:**

**CODE:**

***-- Creating Customers Table***

CREATE TABLE Customers (

CustomerID NUMBER PRIMARY KEY,

Name VARCHAR2(100),

DOB DATE,

Balance NUMBER,

LastModified DATE

);

***-- Inserting Values into Customers Table***

BEGIN

INSERT INTO Customers VALUES (1, 'Alice Reddy', TO\_DATE('1950-05-10', 'YYYY-MM-DD'), 12000, SYSDATE);

INSERT INTO Customers VALUES (2, 'Bob Singh', TO\_DATE('1990-08-21', 'YYYY-MM-DD'), 8000, SYSDATE);

INSERT INTO Customers VALUES (3, 'Carol Mehta', TO\_DATE('1962-01-15', 'YYYY-MM-DD'), 15000, SYSDATE );

INSERT INTO Customers VALUES (4, 'David Rao', TO\_DATE('1985-12-01', 'YYYY-MM-DD'), 9500, SYSDATE);

INSERT INTO Customers VALUES (5, 'Esha Iyer', TO\_DATE('1945-03-25', 'YYYY-MM-DD'), 20000, SYSDATE);

END;

***-- Creating Accounts table***

CREATE TABLE Accounts (

AccountID NUMBER PRIMARY KEY,

CustomerID NUMBER,

AccountType VARCHAR2(20),

Balance NUMBER,

LastModified DATE,

FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID)

);

***-- Inserting Values into Accounts table***

BEGIN

INSERT INTO Accounts (AccountID, CustomerID, AccountType, Balance, LastModified) VALUES (1, 1, 'Savings', 1200, SYSDATE);

INSERT INTO Accounts (AccountID, CustomerID, AccountType, Balance, LastModified) VALUES (2, 2, 'Checking', 800, SYSDATE);

INSERT INTO Accounts (AccountID, CustomerID, AccountType, Balance, LastModified) VALUES (3, 3, 'Savings', 15000, SYSDATE);

INSERT INTO Accounts (AccountID, CustomerID, AccountType, Balance, LastModified) VALUES (4, 4, 'Checking', 9500, SYSDATE);

INSERT INTO Accounts (AccountID, CustomerID, AccountType, Balance, LastModified) VALUES (5, 5, 'Savings', 20000, SYSDATE);

END;

***-- Creating Transactions table***

CREATE TABLE Transactions (

TransactionID NUMBER PRIMARY KEY,

AccountID NUMBER,

TransactionDate DATE,

Amount NUMBER,

TransactionType VARCHAR2(10),

FOREIGN KEY (AccountID) REFERENCES Accounts(AccountID)

);

***-- Creating AuditLog Table***

CREATE TABLE AuditLog (

AuditID NUMBER GENERATED ALWAYS AS IDENTITY PRIMARY KEY,

TransactionID NUMBER,

AccountID NUMBER,

ActionType VARCHAR2(20),

ActionDate DATE,

Amount NUMBER,

TransactionType VARCHAR2(10)

);

***-- Trigger to Insert into AuditLog Table when data is inserted into Transactions Table***

CREATE OR REPLACE TRIGGER LogTransaction

AFTER INSERT ON Transactions

FOR EACH ROW

BEGIN

INSERT INTO AuditLog (

TransactionID,

AccountID,

ActionType,

ActionDate,

Amount,

TransactionType

) VALUES (

:NEW.TransactionID,

:NEW.AccountID,

'INSERT',

SYSDATE,

:NEW.Amount,

:NEW.TransactionType

);

END;

/

***-- Inserting a record into Transactions Table***

INSERT INTO Transactions (TransactionID, AccountID, TransactionDate, Amount, TransactionType)

VALUES (1, 1, SYSDATE, 200, 'Deposit');

***-- Printing/Displaying AuditLog Table to verify***

SELECT \* FROM AuditLog;

**OUTPUT:**

Audit Table after inserting a record into transactions table

